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Case Studies

Planning for Exterior Work on the First Parish Church

Portland, Maine

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Using Photographs as Project Documentation

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Case Studies

Planning for Exterior Work on the First Parish Church

Portland, Maine

Using Photographs as Project Documentation

A Preliminary Survey of the Building
By John C. Hecker, AIA
Society for the Preservation of New England Antiquities
Boston, Massachusetts

Architect's Specifications for Project Work
By Sylvanus W. Doughty, Architect
Maineform Architecture
Augusta, Maine

Heritage Conservation and Recreation Service
Technical Preservation Services
U.S. Department of the Interior
Washington, D.C. 20243
1979

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to insure the wise use of all these resources. The Department also has the major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. Administration.

U.S. Department of the Interior

Cecil D. Andrus, Secretary

Robert L. Herbst, Assistant Secretary

The Heritage Conservation and Recreation Service, a non-land managing agency within the Department, is responsible for assuring the identification, protection, and beneficial use of our important cultural, natural, and recreational resources. The Service offers grant assistance, technical information, and guidance to those in the public and private sectors involved in conservation or recreation projects.

Heritage Conservation and Recreation Service

Chris T. Delaporte, Director

HCRS Publication No. 20

Introduction

The Heritage Conservation and Recreation Service (HCRS) Historic Preservation Grant-in-Aid Program is jointly administered with the States and Territories, the District of Columbia, and the National Trust for Historic Preservation for survey and planning and for the acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction of properties listed in the National Register of Historic Places.

Matching grants of up to 50 percent are provided by HCRS for the preparation of comprehensive statewide surveys and for the acquisition and development of registered properties. States and Territories may transfer funds to local governments, private organizations, and individuals. When funds are transferred, the public interest must be protected for a limited period of time. This is accomplished through provisions which guarantee continued maintenance of the property and public access. The administration of individual grant projects and supervision of project work are responsibilities of the State Historic Preservation Officer who is appointed by the Governor.

Technical Preservation Services, a division of HCRS, reviews and evaluates all grant-assisted acquisition and development projects submitted by the State Historic Preservation offices to assure conformance with the Secretary of the Interior's Standards for Historic Preservation Projects (Appendix A). The division also provides technical assistance to the States through onsite monitoring and inspects proposed, ongoing, and completed project work.

The project completion reports required of all grant recipients demonstrate how HCRS funds have been used, from the planning component through the recording of each area of project work. Technical Preservation Services is committed to publishing and distributing to the States representative completion reports that illustrate the specific processes used to document eligible project work treatments as defined in the Secretary's Standards. Additionally, one of our goals is to illustrate each of the seven treatments: acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction.

In general we find there is a similarity between successful projects of varying complexity: the thoroughness of planning for actual project work and the organization and clarity of the planning documents themselves. A well-thought-out plan for project work demonstrates that (1) a reasonable scope of work has been established to best utilize often limited grant funds; (2) a responsible approach to the project work has been created through careful historical, architectural, and archeological documentation; and (3) a clear communication framework has been developed through the archi-

tect's drawings and specifications so that those people carrying out the work items may be specifically directed. Finally, a coherent report addressing both project planning and actual project work accomplished with grant funds is essential so that others may be able to adequately assess the future construction and/or maintenance needs of the historic property.

The preliminary survey of the First Parish Church, Portland, Maine, represents such a carefully organized, well-presented plan for proposed project work and it is this responsible planning process we wish to emphasize with the publication of this case study.

In the following two-part planning component, John C. Hecker, AIA, formerly an architect for the Society for the Preservation of New England Antiquities and currently employed by David M. Hart & Associates, Boston, Massachusetts, has selected "annotated photographs" as the most appropriate method of documenting several problem areas requiring restoration and stabilization work for use in his report, "A Preliminary Survey of the Building." His photographic documentation has provided a basis for Sylvanus W Doughty, Architect, Maineform Architecture—together with his own independent investigation of the instructure—to write specifications that serve to corroborate the determination of work item priorities in Mr. Hecker's photographic survey. It will be seen in the report that for each area of project work recommended by Mr. Hecker (Part 1), Mr. Doughty has responded by providing clearly-written, technically-sound architectural specifications (Part 2).

The use of photographs for historic preservation project documentation is an effective method of describing in detail and communicating to others the existing conditions of a structure. Whereas even the inexperienced eye is capable of observing the overall deterioration of a building, when properly used, the camera is an extension of the professional investigator's eye, scrutinizing and selectively focusing upon those specific problems needing correction (it must be assumed that the quality of the photographs is critical to the success of this method of documentation).

After the architect's onsite investigation and photographing of potential project work areas, any written notes or tape-recorded comments are polished into clear, evaluative statements that become captions for the photographs—thus the term "annotated photographs." Often, items in the narrative that need to be further identified are keyed to the photograph, repeating terms from the narrative itself or using letters, numbers, or purely graphic devices such as arrows.

It should be noted that, although annotated photographs are used in the First Parish Church survey

partly as a means of communication between two professionals who share responsibility in the planning process, photographs of existing conditions are an invaluable aid to the architect who conducts the preliminary investigation and also prepares the drawings and specifications.

Technical Preservation Services staff members Kay D. Weeks, Technical Writer/Editor, and James A. Caufield and William D. Brookover, Historical Architects, contributed to the development of the original grant-in-aid project materials into their published form.

Lee H. Nelson, AIA
Acting Chief, Technical
Preservation Services

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Brief History of the Building

The First Parish Church, located at 425 Congress Street, Portland, Maine, is the lineal descendant of the first religious activity that took place in 1674 under the Reverend George Burroughs in the community then known as Falmouth. As a result of Indian raids during King William's War in 1690, Falmouth suffered a serious population loss and, 2 years later, Burroughs was hanged, a tragic victim of the Salem witchcraft delusion.

Although resettlement of Falmouth began in 1707, it was not until the 1720's that sufficient prosperity made possible the construction of the first church in the community at the corner of Middle and India Streets.

By 1740, the need for more space resulted in the construction of a large wooden meetinghouse on the site of the present building (Fig. A). Nineteen years later, further enlargement was needed and the building was sawed through and its length increased by 12 feet. This structure, known as "Old Jerusalem," was the scene of the Maine Constitutional Convention of 1819.

In 1824, owing to Old Jerusalem's poor condition, the members selected a committee to plan for a new building. The committee, which consisted of Albert Newhall, Joshua Richardson, and John Mussey, proposed the prospective church's dimensions, style, and building material. No professional architect was employed, and John

Fig. A. *Etching of the old wooden First Parish Meeting House (1740-1825), known as "Old Jerusalem." Courtesy of the First Parish Church.*

Mussey (Fig. B) is credited with much of the final design.

On April 9, 1825, a contract was signed with Nathan Howe, joiner, and Henry Dyer, mason, "to furnish and to erect and completely furnish the house for the sum of $15,000."

On May 9, 1825, the cornerstone was laid, and on February 8, 1826, the building, constructed almost entirely of Freeport granite, was dedicated. In attendance were Governor Albion K. Parris, members of his council, and many other distinguished guests. The completion of the First Parish Church marked the first important stone masonry structure east of Portsmouth, and it has remained throughout the years an impressive landmark in the center of Maine's largest city (Figs. C, D, E). A parish house, added in 1890, was executed in an architecturally harmonious manner (Fig. F).

Fig. B. *John Mussey, architect of the First Parish Church. Photograph taken on Mussey's 85th birthday, October 15, 1875, by Conant of Portland, Maine. Courtesy of William B. Jordan, Jr.*

Fig. C. *The First Parish Church, c. 1865. Courtesy of the Maine Historical Society.*

In 1978 the Maine Historic Preservation Commission awarded $35,000 in matching grant-in-aid funds for project documentation and project work items, including major roof repairs and some structural stabilization. Two different firms were involved in the development of project documents: Boston's Society for the Preservation of New England Antiquities (SPNEA) undertook a detailed analysis of the building's needs based on its original construction and subsequent repairs, then prepared a report based on the onsite investigation and evaluation. Maineform Architecture of Augusta, Maine, using SPNEA's analysis, prepared working specifications; sought out a suitable source of new slate for the roof; assisted in interviewing contractors; and supervised the work once it was underway. This division of responsibilities has insured that the structure receive first-rate technical expertise, while keeping costs at a reasonable level.

Earle G. Shettleworth, Jr.
Director, Maine Historic
Preservation Commission

Fig. D. *The First Parish Church amid the ruins of the Great Portland Fire of July 4, 1866. Courtesy of the Maine Historical Society.*

Fig. E. *The First Parish Church, c. 1870. Courtesy of the Maine Historical Society.*

Fig. F. *The First Parish Church with Parish House addition, c. 1895. Photograph by the Frank Forrestall Adams Studio, Portland, Maine. Courtesy of the Society for the Preservation of New England Antiquities.*

1

A Preliminary Survey of the Building

An onsite visit was made June 29, 1977, to inspect, evaluate, and photographically document existing conditions at the First Parish Church, Portland, Maine. The structure, having been generally well-maintained over its entire life, was found to be in a good state of overall repair, thereby not necessitating extensive restoration work, that is, replacement of missing elements or removal of later ones.

During the course of the inspection visit, representatives of the church pointed out what they felt to be their most pressing problems. Their first concern was the repair of the slate roof, followed by repointing of the exterior stone, repair of the tower woodwork at the deck level, and rebuilding of the foundations for the main entry stone stairs. We generally concurred with these concerns, but subsequently established priorities based upon our investigation of the structure. We also made recommendations for additional work.

After the physical investigation of the building had been conducted, we prepared a report for the church representatives. The bulk of this report was presented by way of the annotated photographs that follow. Each problem was described in a brief narrative and keyed to a photograph of that specific portion of the building requiring work. Appropriate treatments were recommended.

One particular problem—the stabilization of the church floor framing—was of relatively high priority but, in our opinion, not conducive to presentation through an annotated photograph. The structural integrity of the first floor framing had been weakened by the cutting of openings through the supporting basement masonry walls below. These openings were created by removing enough bricks to permit the passage of one person. Unfortunately, little thought had been given to the resultant undermining of the framing members above. We recommended that an engineer be consulted to determine the most appropriate means of re-supporting the framing members at each masonry opening (see Part 2 specifications, Structural Steel 05100).

John C. Hecker, AIA
SPNEA

Fig. 1. Deterioration of Roofing and Flashing.

The existing slate roof has undergone numerous repairs over the years and therefore includes several different colors and sizes of slate. Most repairs have been limited to replacement of individual slates, except near the tower where an approximately 15′ x 30′ section was replaced with green slate (Fig. 1:a) in what was evidently an early, rather sizeable repair job on the main roof (see also Fig. C). Comparison of what we assume is an original slate with other slate samples indicates that the original slate was Welsh purple. We would estimate that only 20–30% of the existing slate can be re-used; the remaining 70–80% will have to be new slate. Obviously, when laying old and new slate side by side, a close color and size match are desirable. New slate will also be required for the two small hipped roof surfaces on either side of the tower, at present covered with black asphalt shingles (Fig. 1:b). Some holes, leaks and previous patching attempts are evident in the roof sheathing when viewed from the attic space. We estimate that 10–15% of the existing roof sheathing will have to be removed and replaced. Other areas of concern are the flashing and counter-flashing. Completely new flashing and counter-flashing will be required at the rear chimney and wherever any roof surface abuts the masonry tower (Fig. 1:c). The existing eave flashing appears to be in good condition (Fig. 1:d). A related flashing item is the re-hanging of several sections of gutter in order to facilitate better drainage (Fig. 1:e). A new metal ridge roll for the main roof and metal hip rolls for the two small hip roofs adjacent to the tower would also be required. Replacement of the existing attic ventilation system at the main roof ridge is also advisable.[1] Inspection of the existing copper roof at the base of the steeple (Fig. 1:f) for any cracks in the seams or joints is recommended. Several water-stained areas were noted in the sheathing beneath this surface which may indicate a leak. Re-soldering of suspect seams should eliminate any current water penetration (see Part 2 specifications, Slate Roofing 06500 and Flashing 07600).

[1]The present attic ventilation system consists of a roof ventilator approximately 16″ in diameter placed centrally on the main roof ridge, directly over a ceiling grate with an undetermined amount of free area. It would appear that the prime purpose of this roof ventilator is not to ventilate the attic, but to exhaust air from the main sanctuary space. Positive ventilation of attic spaces is recommended to prevent condensation and subsequent rot of wooden framing or sheathing elements. At present, no such rot appears to exist; however, introduction of cellulose insulation on top of existing lath and framing may present a problem of moisture absorption or retention sometime in the future. Therefore, an investigation of appropriate alternatives with respect to ventilating the attic space is recommended.

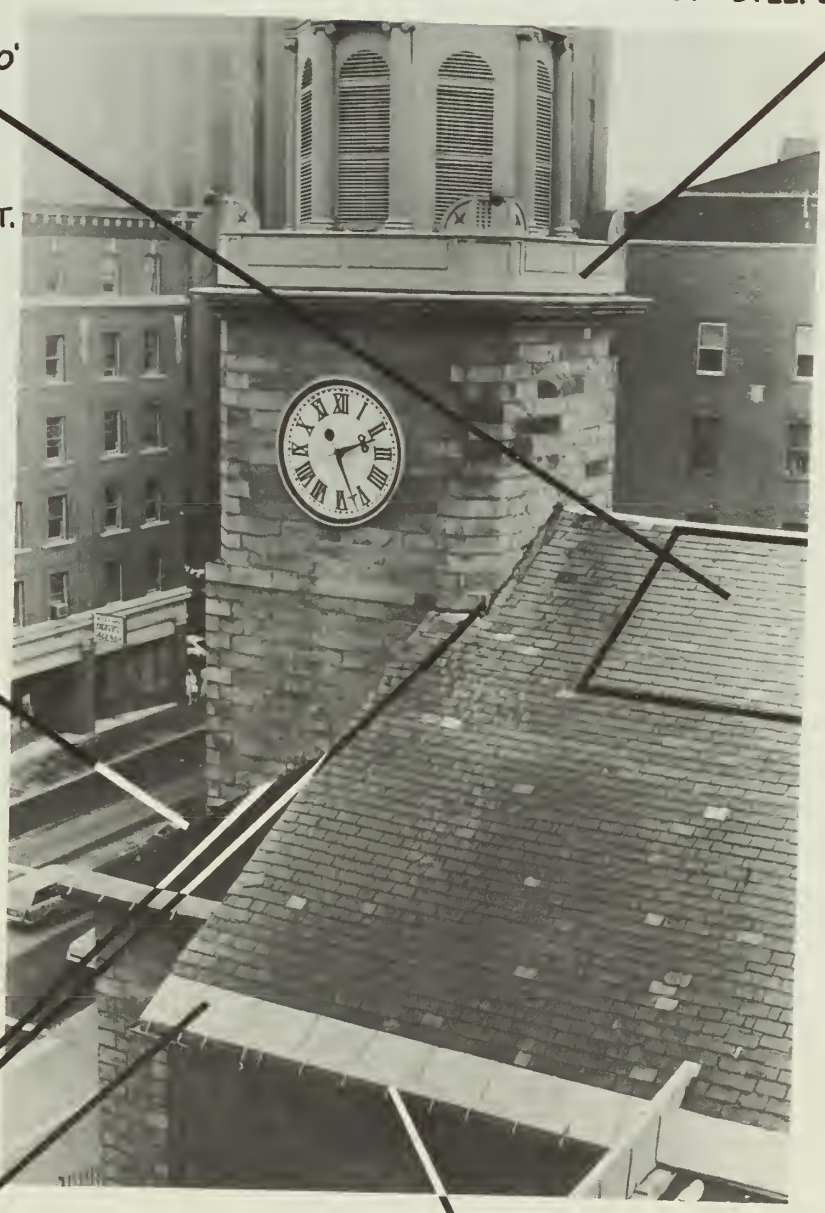

f. INSPECT COPPER ROOF AT BASE OF STEEPLE
a. APPROXIMATE 15'x30' PATCH OF INAPPROPRIATE GREEN SLATE REQUIRING TOTAL REPLACEMENT. PATCH IS VISIBLE IN 1865 PHOTO.
b. HIP ROOF SURFACES COVERED IN INAPPROPRIATE BLACK ASPHALT SHINGLES REQUIRING TOTAL REPLACEMENT
c. NEW FLASHING AND COUNTERFLASHING NECESSARY WHERE ROOF SURFACES ABUT MASONRY TOWER
d. EXISTING EAVE FLASHING IN GOOD CONDITION
e. SECTIONS OF GUTTER NEED REHANGING

Fig. 2. Below-grade Water Penetration at Basement Window Openings.

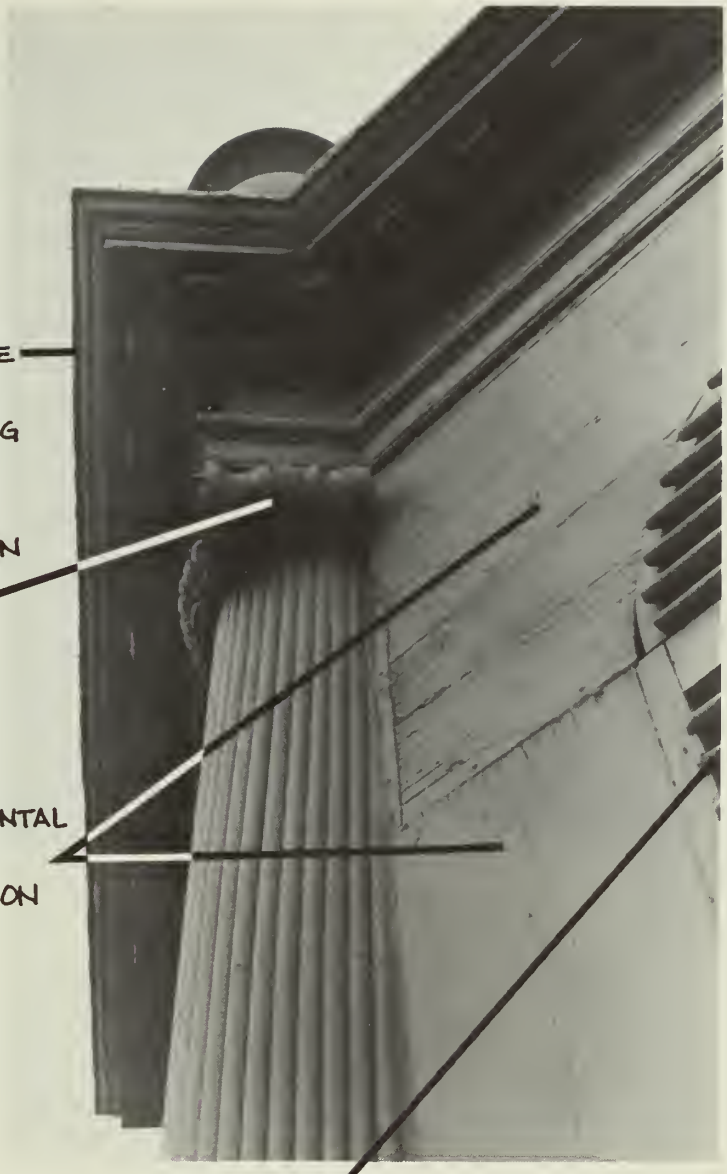
The three exterior wall penetrations at basement level were originally doorways to the three storage areas below the church. Within the recent past, each of these openings was closed by the insertion of concrete block and brick masonry, then backfilled with dirt (Fig. 2:a). It would appear, however, that no effort was made to mechanically seal the joints below-grade between the existing stone and the infill material. As a result, sizable amounts of water are penetrating the wall at isolated points below-grade. The water penetration is cause for concern. If the dampness is not removed through ventilation, it may well lead to future deterioration of both wood and masonry materials. We therefore recommend that the immediate area outside of each basement opening be excavated (Fig. 2:b) in order to install proper waterproofing membranes over the below-grade infill material and neighboring existing masonry (see Part 2 specifications, Dampproofing 07150 and related Site Improvements 02700).

a. ORIGINAL BASEMENT DOOR OPENING FILLED WITH CONCRETE BLOCK AND BRICK - THEN BACKFILLED WITH DIRT

b. BELOW GRADE AREA TO BE EXCAVATED FOR WATERPROOFING TREATMENT

Fig. 3 Cornice Deterioration at the Urn Level of the Steeple.

The cornice flashing, edge-nailed into the crown moulding (Fig. 3:a) is no longer serving its intended function of throwing water away from the cornice below. Instead, the many open nail holes provide an avenue for moisture penetration. Therefore, it is strongly recommended that all existing cornice flashing at this level be replaced and that all new flashing be detailed in such a manner as to avoid edge-nailing. Additional deterioration, including some large holes, is evident at several locations in the cornice soffit and should be repaired. Many of the Ionic column capitals also show weathering and deterioration at their upper surfaces (Fig. 3:b). Where possible, these areas should be consolidated and patched; the worst areas may require piecing-in of new wood. The vertical (Fig. 3:c) and horizontal sheathing (Fig. 3:d) needs a thorough scraping in preparation for painting, in addition to localized patching or caulking of open areas in the wood. The wood louvers (Fig. 3:e) require similar preparation prior to painting (see Part 2 specifications, Rough Carpentry 06100 and Flashing 07600).



a. DETERIORATED CORNICE FLASHING IN NEED OF REPAIR - EDGE NAILING NOT RECOMMENDED

b. DETERIORATED COLUMN CAPITALS NEEDING CONSOLIDATION - POSSIBLY PATCHING

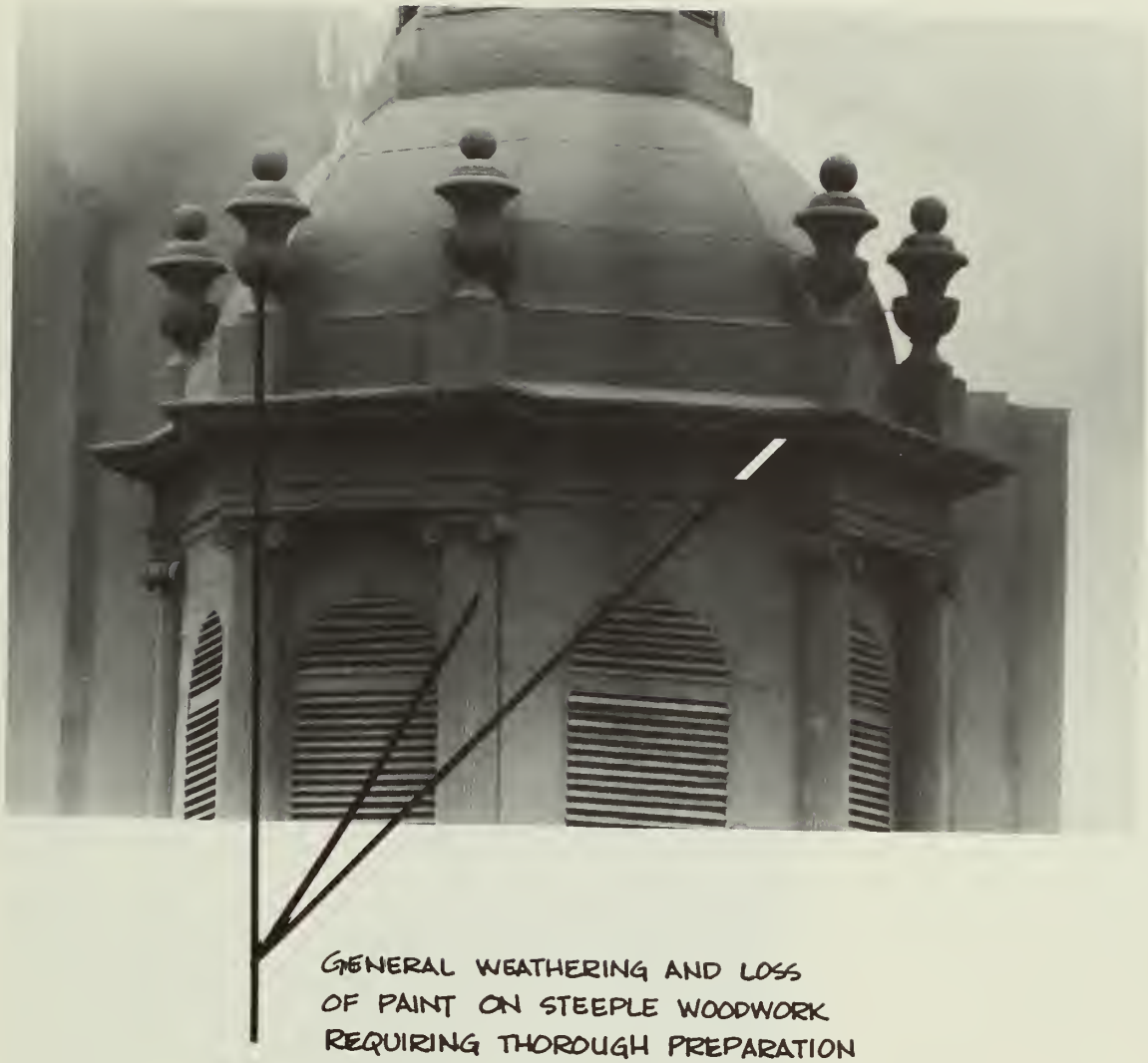
c.,d. VERTICAL AND HORIZONTAL SIDING IN NEED OF THOROUGH PREPARATION FOR PAINTING

e. WOOD LOUVERS IN NEED OF THOROUGH PREPARATION FOR PAINTING

Fig. 4 Paint Failure on Wood Elements of Steeple.

The majority of steeple woodwork[2] exhibits weathering and loss of paint coverage and adhesion. For the continued life of these elements, we recommend a thorough scraping, sanding, and caulking of all areas of the steeple woodwork followed by the priming of all bare wood and two coats of a premium housepaint (see Part 2 specifications, Painting 09900).

[2]The space enclosed by the cupola and the curving, metal-covered roof below appears not to be ventilated. Visual inspection from the access hatch above the bell revealed the interior wood surfaces of this space to be quite damp. To prevent any chance of rot developing, we recommend investigating ways of unobtrusively ventilating this space.



GENERAL WEATHERING AND LOSS
OF PAINT ON STEEPLE WOODWORK
REQUIRING THOROUGH PREPARATION
AND REPAINTING

Fig. 5. Delamination of Column Bases at Lower Steeple Roof Deck.

The column bases, which appear to be of recent vintage, are separating at their lamination points (Fig. 6:a). Further inspection should be made to ascertain the probable age of these elements, which would then determine whether the existing bases need expensive regluing and consolidation, or if entirely new bases should be fabricated. The unusual reeding above appears to be fastened with wire nails, indicating 20th century building material (Fig. 6:b); however, close examination of a ca. 1895 photograph of the church (Fig. F) seems to show similar reeding, which would tend to suggest that the existing material was fabricated in a manner approximating that of the earlier material (see Part 2 specifications, Rough Carpentry 06100).

a. SEPARATION OF COLUMN BASES REQUIRING EITHER REPAIR OR REPLACEMENT
b. COLUMN REEDING FASTENED WITH WIRE NAILS

Fig. 6. Uneven Settlement of Main Entry Stairs.

For the most part, the stone stairs appear to be in reasonably good condition. A few slabs have twisted or rotated, opening large gaps between the slabs (Fig. 6:a). These gaps may be allowing water to penetrate under the slabs where it could possibly be leaching mortar away from the supporting spur walls below (Fig. 6:b). We believe that the present condition of the stairs does not warrant immediate attention; however, it should be pointed out that one or two of the slabs could present a problem to an elderly person or to someone who fails to notice the uneven settlement. Repairs to the stair slabs and the supporting walls below could possibly best be effected by removal of the uppermost large stone sections. Once all stone is re-set in position, all joints should be grouted and caulked with a suitable non-staining material to prevent future moisture penetration (see Part 2 specifications, Mortar 04100 and Brick Masonry 04210).

a,b. TWISTED OR ROTATED SLABS CAUSING POSSIBLE WATER PENETRATION AND MORTAR LEACHING - NEEDS FUTURE ATTENTION

Fig. 7. Uneven Weathering of Mortar Joints.

An examination of existing mortar joints revealed no obvious areas in immediate need of repointing. This is not to suggest that the walls are entirely intact, for our survey was made visually from the ground using a telephoto lens. Obviously, repointing has been undertaken in the past, as witnessed by the different mortar colors, textures, and joint profiles existing today. It is interesting to note raised mortar joints directly under the eaves at numerous locations. These raised joints appear lighter in color (Fig. 7:a) than the joints below (Fig. 7:b) and appear to have been tooled with the intent of giving the rock-faced ashlar a more regular appearance. It seems possible that because of the protective overhang of the eaves, these areas of mortar joints have suffered less from the action of weathering and attempts at repointing. It is recommended that before any major repointing work is undertaken in the future, a careful analysis be made of the existing joints below the eaves to determine both composition and profile of the mortar material.[3]

[3]We also recommend that an attempt be made to examine the mortar joints of the church which are now covered by the construction of the parish house. It may be possible, by lifting one of the sash on the parish house side of the church (Fig. F), to see undisturbed mortar joints from the original period of construction. The discovery of these joints could possibly be of great assistance in determining future repointing materials and techniques.

a. RAISED MORTAR JOINTS DIRECTLY UNDER THE EAVES

b. UPPER MORTAR JOINTS OF LIGHTER COLOR THAN THOSE BELOW

NOTE: PRIOR TO ANY REPOINTING WORK, AN ANALYSIS OF EXISTING MORTAR COMPOSITION AND PROFILE IS RECOMMENDED

Fig. 8. Exfoliation of Stone at Center Doorway.

The weathering crust which has formed on the doorway quoins (Fig. 8:a) and adjacent masonry (Fig. 8:b) is exfoliating due to a combination of factors. The Portland urban environment imposes many stresses upon stone which include a higher level of sulfates and carbon dioxide in the atmosphere, frequent freeze-thaw cycles, street salting during the winter, a salt water environment, and winter and summer fog sequences. Unfortunately, little can be done to prevent additional weathering crusts from forming and exfoliating. Even in an ideal climate, most stones exhibit formation of a weathering crust, but at a much slower rate.

a.,b. WEATHERING CRUST FORMED ON THE DOORWAY QUOINS AND ADJACENT MASONRY

2

Architect's Specifications for Project Work

The prioritized recommendations in John C. Hecker's "Preliminary Survey of the Building" (Part 1), as well as my own investigation of the structure, have formed the basis for the specifications for work items in Part 2. It should be emphasized here that an absolutely critical factor in total project planning is the supervision of ongoing work by the architect to ensure that project personnel are able to understand and to perform their varied responsibilities; without such careful onsite supervision by project architects, specifications can be misunderstood and misinterpreted, resulting in inappropriate work.

In reference to Fig. 1 (Deterioration of Roofing and Flashing), because no absolute photographic evidence of the 1826 roof ridge detail exists and in view of the building's early roof repairs, another approach was selected in conjunction with the roofing contractor, Mr. C. Gordon LaRose, Portland Roofing Co., South Portland, Maine: a slate comb roof on the main roof and slate fantail hips on the two small roofs adjacent to the tower (see Part 2 specifications, Slate Roofing 06500).

No specifications have been provided for Fig. 7 (Uneven Weathering of Mortar Joints) and Fig. 8 (Exfoliation of Stone at Center Doorway) as per Mr. Hecker's recommendations, because further investigation and/or monitoring of these areas must be conducted prior to the development of additional items of work.

Sylvanus W. Doughty, Architect
Maineform Architecture

SPECIFICATIONS

for

FIRST PARISH CHURCH, PORTLAND,
CUMBERLAND COUNTY, MAINE

Owner
FIRST PARISH CHURCH

Architect
MAINEFORM ARCHITECTURE
104 Winthrop Street
Augusta, Maine 04330

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Architects Project No. 7803

SECTION 01010

SUMMARY OF THE WORK

The work includes replacement of the slate roof on the First Parish Church, Portland, and other miscellaneous work. Roof work includes removal and salvaging of existing roofing known as Welsh purple slate, and removal of existing flashing. New slate will be placed on main nave roof and existing slate hung on two small hip roofs at front of church. New flashings will be placed in conjunction with hanging of slate. Gutters on the main roof will be repaired.

New steel supports will be placed under floor joists at interior brick cross wall openings in basement.

At the foundation on the west wall, existing masonry block walls will be excavated and dampproofed. Existing shrubs will be removed and replanted upon completion of dampproofing and roofing work.

Miscellaneous flashing on the steeple will be repaired and replaced. Parts of the steeple woodwork will be repaired and the entire wood portion of the steeple will be painted.

The front stone steps of the church will be dismantled for foundation repair and the steps relaid.

END OF SECTION

SECTION 02700

SITE IMPROVEMENTS

PART 1. GENERAL

1.1 Work to be done

A. Remove, ball and burlap existing trees and shrubs in areas to be excavated.

PART 2. PRODUCTS

2.1 Materials

A. Excavated material used for backfill shall be cleaned of all boulders and foreign matter before use.

B. Clean bank run gravel, 2" max. aggregate.

PART 3. EXECUTION

3.1 General

A. Existing loam suitable for reuse shall be stockpiled for future use on the project site.

B. Excavate to depth as required to accomplish the work on the west side of the church.

C. Material unfit for fill or grading shall be disposed of off the site or where directed by the Architect. Surplus excavated material in excess of that required for rough grading shall be disposed of off the site.

D. Finish grade on the west side of building shall match the present existing finish grade.

E. Fill shall not be started until the area has been inspected and approved by the Architect.

F. Earth backfill shall be damp and tamped every two feet in depth with mechanical tampers to avoid settlement.

3.2 Loaming and Seeding

A. Place topsoil evenly over all areas to be loamed to a minimum thickness of 6 inches. Hand rake to remove all clods, lumps, brush, roots and stones over 1 inch in diameter. Hand roll to show depressions and uneven areas. Regrade as necessary to smooth even grades.

B. Sow common dealer mixed seed by use of a mechanical spreader at the rate of 4#/1000 sq. ft. Rake lightly in, roll with 200# roller and water with a fine spray. A full even growth in all areas must be guaranteed. The maintenance period shall continue after seeding and until the lawns are certified acceptable by the Architect.

3.3 Planting

A. Replanting of existing "saved" shrubs shall be in existing locations. Dig holes 1 foot larger in diameter and 2 feet deep for shrubs and vines.

B. Preparation of Soil: Incorporate manure with loam in bottoms of holes. Apply ground limestone at the rate of 10 lbs. per 100 sq. ft., to plant beds, except for plant beds in which acid-loving plants or broad-leaved evergreens are to be planted.

C. Any plant required under this contract that is not in satisfactory growth, as determined by the Architect, shall be removed from the site and replaced during normal planting season. All replacements shall be plants of the same kind and size as originally existed. They shall be furnished by the Contractor and planted as specified above at no cost to the Owner.

3.4 Cleaning

A. On completion of work, the premises are to be cleaned of all debris and the whole left in a first class and satisfactory manner.

END OF SECTION

SECTION 04100

MORTAR

PART 1 GENERAL

1.1 Materials

A. Sand shall be clean, hard, coarse and free from deleterious materials conforming to ASTM Standard C 144.

B. Water shall be potable.

C. Masonry cement for brickwork shall be Dragon, Atlas, Brixment, or Medusa of gray color as selected by the Architect.

PART 2 EXECUTION

2.1 Use

A. For masonry reconstruction of front step supports, use mortar conforming to Type N as required by ASTM C 270. The following formula is recommended:

1 part Portland cement
1 part hydrated lime
5 1/2-6 parts sand

B. Mortar shall be mixed and kept tempered on the boards so that it will contain at all times as much water as it is able to carry. No mortars that have stood more than one hour shall be used. Retempering in the box will not be permitted.

END OF SECTION

SECTION 04210

BRICK MASONRY

PART 1 GENERAL

1.1 Protection

A. Half of the front entrance way shall be protected for access to the church during the course of the repair on the remaining half. Provide protective railing closure for work area.

B. The contractor may provide at his option a wood closed riser stair 4 feet wide with handrails on both sides placed at side of top platform. Remove and protect for replanting any shrubs which may be in the way of this installation. Provide other protection as necessary at top platform. Replant shrubs and guarantee their replacement.

PART 2 PRODUCTS

2.1 Materials

A. Brick shall be hard fired solid units of standard dimension.

PART 3 EXECUTION

3.1 Dismantling

A. Remove with care two existing center rails on front steps and store for reuse.

B. Disassemble front stone steps of the church as indicated above and store on the apron between steps and city sidewalk. Maintain access to gate to Parish House and the half of steps. Do not move large platform stones in front of doors. Code stones on unexposed surface for reassembly.

C. During disassembly and placement moving operations, protect weather surfaces from any damage.

D. Remove unsound mortar and brick and/or other masonry from supporting walls for steps.

3.2 Installation

A. Jack up large platform stone at doors. Make front edge continuous with adjacent slabs. Remove unsound mortar and brick from supporting walls. Replace with new brick and/or mortar to provide continuous bearing for stone.

B. Under remaining large platform stones, remove any unsound mortar and/or brick and repair with new material to provide sound bearing surfaces.

C. Remove all unsound mortar and/or brick from step supporting walls and repair with new material. Alter spacing of supports as necessary to provide 1 inch minimum horizontal lap of stone steps when they are placed in final position.

D. Place stones with care, providing steps which are plumb and level. Set each row in full bed of mortar on all bedding surfaces including front lap over stones below. Final position of stones shall provide equal treads at each step from top to bottom.

E. Place new brick in front apron as necessary to provide continuous surface to bottom riser.

F. Replace center railings in original positions and make secure as originally fastened.

3.3 Cleaning

A. The masonry contractor shall remove rubbish and debris resulting from this work from the premises on completion. Leave area affected by this work clean of all debris and dust.

END OF SECTION

SECTION 05100

STRUCTURAL STEEL

PART 1 GENERAL

1.1 Product Handling

A. Store structural steel members at the project site above ground on platforms or other supports.

B. Protect steel from corrosion with canvas or other coverings.

PART 2 PRODUCTS

2.1 Materials

A. Steel shapes, FY36 steel, ASTM A 36.

B. Shop paint-SSPC Paint 13, Stan-tite #86 Metal Primer, Rust-Oleum X-60, Inemec 99, or equal approved by the Architect.

2.2 Fabrication

A. Fabricate structural steel for each opening in brick cross walls in basement. Provide 8" of sound bearing on each end. Sections shall be W8 x 10 by length required for sound bearing.

B. Shop paint all surfaces of all steel work.

C. Steel work to be painted shall receive a one (1) coat shop paint system in accordance with SSPC Paint System 7.01.

2.3 Erection

A. Erect structural steel on full 1" thick structural bearing grout placed on sound brick masonry bearing.

B. Set, wedge and shim as necessary for full and proper bearing.

C. Erect individual pieces so the deviation from plumb, level and square shall not exceed 1 to 500.

END OF SECTION

SECTION 06100

ROUGH CARPENTRY

PART 1 GENERAL

1.1 Related work specified elsewhere

A. Flashing and Trim - Section 07620

B. The contractor shall cooperate and coordinate as necessary with the roofing contractor who shall provide scaffolding.

PART 2 PRODUCTS

2.1 Materials

A. Lumber herein referred to shall conform to Product Standard 20-70 (American Softwood Lumber Standard). Lumber shall bear the grade and trademark of the Association under whose rules it is produced and a mark of mill identification.

B. Lumber for exterior exposed used on steeple eaves and for enclosed blocking shall be pressure treated with Wolman Salts or Pentachlorophenol to conform to American Wood Preservers Association Standards for normal exposure.

C. Protect all lumber and keep dry, both in transit and at the job site.

D. All lumber shall be well seasoned and contain not more than 19% moisture content.

E. Lumber requirements-lumber for rough carpentry, unless indicated otherwise-select structural #2 Eastern Spruce, Fir, or Hemlock.

F. Wood for exterior exposed trim on steeple shall be No. 2 Clear White Pine.

G. Nails for exterior work shall be galvanized of size and type required for the work.

PART 3 EXECUTION

3.1 Installation

A. Accurately fit and brace all new and repair work and secure in position plumb and true.

B. Prior to commencement of flashing work as specified in Section 07620 - Flashing and Trim, remove all sections of rotten and unsound eave trim pieces adjacent to flashing. Replace with new wood of matching size and shape.

C. Back prime all new lumber pieces prior to placement on the building.

D. Remove all laminated wood column bases on columns adjacent to bell level louvers. Care shall be taken to preserve existing surrounding wood.

E. Fabricate new column bases for the above noted locations conforming to profile of existing wood bases. Parts shall each be fabricated from a single piece of thoroughly dry stock as specified and conform to American Woodworkers Institute Standards for custom grade work. Secure in proper position on columns.

F. Repair louver systems in upper steeple and at bell level. Secure all slats in correct position in frames. Provide new pieces where broken slats are found. Secure frame work. Remove existing torn screening and provide new material to match existing. Provide continuous surface over all openings to prevent access from the outside.

G. In ceiling of bell chamber, remove four sections of ceiling a total of 4 sq. ft. to provide ventilation to dome above. Place openings at front, rear, and both sides. One opening may occur at existing hatch.

H. Repair existing wood shutters as supplied by Owner. Secure all loose louvers and replace broken parts. Tighten all loose joints between stiles and rails. Shutters shall be hung under Section 09900 - Painting.

J. Repair and renail all other loose and broken clock face and wood steeple components.

3.2 Cleaning

A. Remove rubbish and dust resulting from the work of this section from the premises on completion of all work specified.

END OF SECTION

SECTION 06500

SLATE ROOFING

PART 1 GENERAL

1.1 General and Guarantee

A. This contractor shall furnish all materials and labor in accordance with the specifications.

B. This contractor shall inspect all surfaces prepared for slating and shall not proceed with the laying of felt, flashings or slate until the necessary corrections have been made.

C. Roofing shall be applied by workmen experienced in the applying of slate.

D. The contractor shall furnish his own scaffold or rigging.

E. A written guarantee shall be furnished that the materials used are in strict accordance with these specifications, and that any and all repairs required on the roof due to defective materials or workmanship furnished under this contract shall be made without cost to the owner, for a period of one year.

PART 2 PRODUCTS

2.1 Materials

A. On all boarding to be covered with slate, furnish and lay asphalt saturated rag felt, not less in weight than that commercially known as "15 pound" felt. In this weight, per 100 square feet, a tolerance of one pound plus or minus will be allowed.

B. Felt shall be laid in horizontal layers with joints lapped toward eaves and at ends at least 2" and well secured along laps and at ends as necessary to properly hold the felt in place and protect the structure until covered by the slate. All felt shall be preserved unbroken, tight and whole.

The felt shall lap over all hips and ridges.

Felt shall be lapped 2" over the metal of any valleys or built-in gutters.

C. 1. Slate shall be of commercial standard quality and thickness.

2. Size of slate shall be random widths by 20 inches in length.

3. Color of slate shall be unfading purple as supplied by Vermont Structural Slate Company for the main nave roof and salvaged Welsh purple slate for the two hip roofs adjacent to the tower.

D. All slate shall be hard, dense, sound rock, machine punched for two nails each. All exposed corners shall be practically full. No broken corners on covered ends which sacrifice nailing strength or the laying of a watertight roof will be allowed. No broken or cracked slates shall be used.

E. Cement shall be an approved brand of waterproof elastic slaters' cement colored to match as nearly as possible the general color of the slate.

F. All slate shall be fastened with two large-head slaters' solid copper nails. Use 3d (1 1/4") nails for slates 18" or less in length, 4d (1 1/2") for 20" or longer, and 6d (2") for slates on hips and ridges.

PART 3 EXECUTION

3.1 General

A. Remove slate on entire existing main nave roof and asphalt on existing hip roofs. Existing Welsh purple slate shall be salvaged as practicable for placement on two hip roofs and for placement in storage in church basement by contractor. Existing slate for reuse on roofs shall have a minimum of 90% of its original surface intact.

B. The entire surface of all existing main nave and hip roofs shall be covered with slate in a proper and watertight manner.

C. The slate shall project 2" at the eaves and 1" at all gable ends, and shall be laid in horizontal courses with the preceding one. Slates at the eaves or cornice line shall be doubled and canted 1/4" by a wooden cant strip.

D. Slates overlapping sheet metal work shall have the nails so placed as to avoid puncturing the sheet metal. Exposed nails shall be permissible only in top courses where unavoidable.

E. Neatly fit slate around any pipes, ventilators, etc.

F. Nails shall not be driven in so far as to produce a strain on the slate.

G. Cover all exposed nail heads with elastic cement. Hip slates and ridge slates shall be laid in elastic cement spread thickly over unexposed surface of under courses of slate, nailed securely in place and pointed with elastic cement.

H. Build in and place all flashing pieces in accordance with Section 07600.

I. On completion all slate must be sound, whole and clean, and the roof shall be left in every respect tight and a neat example of workmanship.

J. All hips shall be laid to form Fantail Hips without metal underneath.

K. All ridges shall be laid to form Comb Ridges with vertical grain. The nails of the combing slate shall pass through the joints of the slates below.

END OF SECTION

SECTION 07150

DAMPPROOFING

PART 1 GENERAL

1.1 Experience

A. Submit satisfactory evidence of having successfully completed work of a similar nature continuously during the previous five (5) years.

PART 2 PRODUCTS

2.1 Materials

A. Dampproofing for exterior of existing foundation walls below grade at masonry block closures on west wall of nave, Dehydratine No. 6 by A.C. Horn, Spray-Hastic #712-B by J. & B. Petroleum over 716 Primer-Bonding Coat or Karnak 220 Fibrated.

PART 3 EXECUTION

3.1 Application

A. Apply two coats of foundation dampproofing materials specified by trowel over cleaned and repointed stone and block masonry foundation closures. Let first coating dry thoroughly before applying second coat.

B. Total thickness of both coatings shall be not less than 1/8 inch thick. Any thin spots shall be redone until minimum thickness is obtained. Lap beyond masonry block closures a minimum of 24 inches at sides, bottom and top of closures. Complete application shall stop at grade level or slightly below.

END OF SECTION

SECTION 07600

FLASHING

PART 1 GENERAL

1.1 General and Guarantee

A. This contractor shall furnish all materials and labor in accordance with the specifications.

B. This contractor shall carefully examine all surfaces prepared for flashing, etc., and shall see that the necessary corrections are made before proceeding with his work.

C. During construction care shall be taken to prevent damage to flashings in place by walking or placing heavy materials on them. As soon as soldering is done and flashings are completed, the work shall be thoroughly cleaned. Toward completion, all damaged work shall be repaired, all stains and debris shall be removed, and sheet metal work shall be left in perfect condition.

D. This contractor shall supply, move, and maintain scaffolding where required in a secure manner during the course of roofing, flashing, rough carpentry and painting work on the steeple.

E. A written guarantee shall be furnished that the materials used are in strict accordance with these specifications, and that any and all repairs required on the roof due to defective materials or workmanship furnished under this contract shall be made without cost to the owner, for a period of one year.

PART 2 PRODUCTS

2.1 Materials

A. All surfaces to be covered with copper shall be covered first with rosin-sized or asbestos-felt paper weighing not less than 6 pounds per 100 square feet. Paper shall lap 2" and be nailed with flat-head copper nails. If surfaces have already been covered with paper or felt by the roofing contractor this paper may be omitted.
NOTE: Asphalt saturated felt will not be allowed.

B. All nails, rivets and similar fastenings, if any, used throughout the work shall be of best grade hard copper or brass. Nails shall be wire nails not less than No. 12 guage and not less than 7/8" long.

C. All flashings shall be 16 ounce soft copper, rolled from copper conforming to the standard specification of the American Society for Testing Materials. The edges of all sheets to be soldered shall be tinned 1 1/2" on both sides.

D. All solder shall be of the best grade, equal to American Society for Testing Materials Specifications B-32-21 and shall be composed of one-half pig lead and one-half block tin (new metals). Rosin shall be used as a flux.

E. Snow guards shall be copper Folsom's new model or equal and shall be placed as slate is laid up. They shall be placed every 12" horizontally and in 5 rows at each slate course beginning at the second course.

PART 3 EXECUTION

3.1 General

A. All intersections of roofs with vertical surfaces or other roofs and all openings in roof surfaces, shall be flashed with copper. The method of flashing, except as otherwise shown or specified, shall be base and counter, or cap, flashing. New flashings shall replace and be sized to all existing flashings on main nave roof and on two hip roofs on each side of tower. Clean out all reglets thoroughly prior to placement of new flashing.

B. Unless otherwise specified all flashings shall be sized to existing flashings. Base flashings shall project at least 4" out on to the roof. Flashings shall be full 96" in length. On sloping roofs they shall lap longitudinally at least 3".

C. Cap flashings shall turn down over base flashings not less than 4". They shall be secured to vertical surfaces, as follows:

Wood Work: They shall extend up under exterior coverings not less than 4" above the roof, and shall be nailed along the top edge about every 8".

Mason Work: They shall extend into joints of masonry walls 4" and have the inner edge turned back on itself 1/2". The sheets shall be bent to the required shapes, and cleaning out of joints for setting flashings will be allowed.

Reglets: Where replacing existing flashings or as specified, flashings shall finish in reglets in the masonry.

The flashing shall be turned into the reglet the full depth and shall be turned back to form a hook.

After the flashing is in place the reglet shall be filled and caulked, using molten lead on flat surfaces, and lead wool on vertical surfaces.

After caulking the reglet shall be made smooth by filling with elastic cement.

D. Step flashings shall be used where vertical surfaces occur in connection with slopes. They shall be formed of separate pieces as specified for cap flashings in masonry. Steps shall lap generally 3", but in no case less than 2", and shall not be soldered. Lap joints shall be vertical.

E. All pipes passing through roofs shall be flashed and counter-flashed. Base flashings shall extend out on the roof not less than 6". They shall be of sufficient length to cover the slate course next below the pipe and to extend up under the slate course above as far as possible without puncture by nails.

F. The exposed edge of all flashings shall be folded under 1/2", in such manner as to conceal them from view.

G. Replace existing wood sheathing where rotten with new wood of like size, thickness and specie before commencing hanging of slate and placing of flashings.

H. Repair existing gutters and downspouts on nave roof eaves to provide a secure assembly with continuous pitch to drains. Solder all loose joints.

I. Any unsound material in gutters and downspouts shall be replaced with material matching existing. Make patches so new work will extend from existing seam to existing seam. Double lock and solder seams, and fabricate sections to match existing work.

J. Continuous around steeple at base of dome below urns; and around steeple bell deck, raise eave flashing and insert underneath a four inch wide copper strip. Isolate from incompatible metal if necessary to prevent electrolysis with 15 pound felt. Renail assembly through sound existing metal into wood backing. NOTE: This flashing treatment is specified in order to stabilize the existing deteriorated and leaking material. Future corrective measures should involve detailing the flashing to avoid edge-nailing, possibly requiring the replacement of the entire dome roof.

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07600/3

K. Examine all existing joinery on dome, around urns, and on bell deck for loose, unsound, and leaking joints. Clean all such joints and resolder to provide a watertight assembly.

L. Commence work after completion of wood replacement as specified in Section 06100 - Rough Carpentry.

3.2 Cleaning

A. The roofing and flashing contractor shall remove rubbish and debris resulting from this work and that of the slate reroofing operations from the premises on completion. Leave the area affected by this work clean of all debris and dust.

END OF SECTION

SECTION 09900

PAINTING

PART 1 GENERAL

1.1 Related Work Specified Elsewhere

A. Rough Carpentry - Section 06100

1.2 Colors and Samples

A. Paint colors shall be as selected by Architect. The contractor shall prepare samples at the job as required until the colors and textures are satisfactory.

B. Tint primer and undercoat to the approximate shade of the finish coat.

1.3 Contractor Responsibility

A. The painting contractor is responsible for inspecting the work of others prior to the application of any paint or finishing material. If any surface to be finished cannot be put in proper condition for finishing by customary cleaning, sanding and puttying operations, the painting contractor will immediately notify the Architect in writing, and shall not proceed with this work until conditions have been corrected and are acceptable.

B. The contractor shall cooperate and coordinate as necessary with the roofing and flashing contractor who shall provide scaffolding.

PART 2 PRODUCTS

2.1 Materials

A. Paint of type and brands hereinafter specified under "Schedule of Painting". Painting materials such as linseed oil, shellac, turpentine, etc., shall be of highest quality, and have identifying labels on containers.

B. Deliver all paint to site in manufacturer's sealed containers. Each container shall be labeled by the manufacturer; labels shall give manufacturer's name, type of paint, color of paint and instructions for reducing. Do thinning only in accordance with directions of manufacturer. Job mixing or job tinting may be done when approved by Architect.

C. Base bids on the use of the specified brands and quality as hereinafter specified. If Contractor desires to use materials of a manufacturer other than the materials specified, he shall make the request in writing to the Architect, giving the name of the manufacturer and the specific name of each product he offers as a substitute, and shall state the amount, if any, to be added to or deducted from his bid for such substitution. Pratt and Lambert, California Products, Martin Senour, Burgess Forbes and Sherwin Williams Paints are approved as equals to items specified.

D. Use materials only as specified by manufacturer's direction label on the container.

E. Oil-pure raw linseed oil.

F. Turpentine-pure spirits of turpentine.

PART 3 EXECUTION

3.1 Preparation of Surfaces

A. Thoroughly scrape all wood components on the steeple down to and including clock faces. Extreme care shall be taken not to damage existing or new wood surfaces by using appropriate devices. Scrape front wood doors and frames.

B. Remove loose paint from all metal components on the steeple exclusive of gold flaked parts. Do not damage metal sheeting or joints.

C. Thoroughly scrape all shutters as noted in Section 06100 Rough Carpentry and hang as directed by Owner at completion of painting process.

D. Touch sand to smooth and even surface and dust. After prime coat has been applied, fill remaining holes with wood putty.

E. Existing painted and new surfaces shall be thoroughly cleaned before beginning painting work with detergents.

3.2 Schedule of Painting

A. All wood components of steeple and shutters and front doors

Sherwin Williams	1st coat Hi-Level Ext.	Undercoater
	2nd coat Hi-Level Ext.	Gloss Paint for new or bare wood
	3rd coat Hi-Level Ext.	Gloss Paint

B. All metal components of steeple and shutters

Sherwin Williams	1st coat SWP Reinforced Red Lead Primer
	2nd coat Hi-Level Ext. Gloss Paint for new or bare metal
	3rd coat Hi-Level Ext. Gloss Paint

3.3 Application

A. All work shall be done in a workmanlike manner and by skilled mechanics. Spread all materials evenly, flow-on smoothly, free from brush marks, hairs, runs or sags and shall be rubbed down between coats.

B. Do not apply paint or enamel until the preceding coat is thoroughly dry and hard. In general, and unless otherwise specified, allow exterior oil paints to dry at least 72 hours between coats and interior coats to dry at least 48 hours between coats. Each undercoat shall differ in shade from the preceding coat. Obtain tentative acceptance from the Architect before proceeding with successive coats.

C. Do no exterior painting in rainy or damp weather until the surface is thoroughly dry, or when the temperature is below 50° F. or above 90° F.

D. The priming coat shall be that recommended by the manufacturer of the succeeding coats.

E. Priming, sealing, and finish coat shall be by one manufacturer.

F. Apply all materials in accordance with the manufacturer's instructions.

G. Adequately protect all work adjacent to surfaces to be painted by drop cloths or other approved means.

H. Rectify any damage caused by paint or painting operations and perform all touching up necessary.

I. Generally, the workmanship and the method of carrying out the work shall be in accordance with the "Paint Manual" B.M.S. 105 issued by the National Bureau of Standards.

J. Number of coats herein specified is the minimum required. If, in the opinion of the Architect, surfaces do not conform to the approved samples, apply additional coats.

END OF SECTION

A
Appendix

The Secretary of the Interior's Standards for Historic Preservation Projects

The Secretary of the Interior's Standards for Historic Preservation Projects are the required basis for State Historic Preservation Officers and the Heritage Conservation and Recreation Service to evaluate Historic Preservation Fund grant-assisted acquisition and development project work proposals for properties listed in the National Register of Historic Places. The types of treatments that may be undertaken on registered properties are defined; and both the general standards that apply to *all* treatments and the specific standards that apply to *each* treatment are listed.

The Heritage Conservation and Recreation Service, Technical Preservation Services, is pleased to include the standards as an appendix to this case study not only because they constitute the main program management requirement but because the case studies illustrate the successful use of the standards by project personnel in the States for planning and executing grant-assisted work. We have highlighted those portions of the standards that apply to this and to all projects involving the "stabilization" and "restoration" of registered properties.

Copies of *The Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards*, may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 (stock number: 024–016–00105–2; price: $2.30). Please do not send cash or stamps.

Definitions

The following definitions are provided for treatments that may be undertaken on historic properties listed in the National Register of Historic Places:

Acquisition

Is defined as the act or process of acquiring fee title or interest other than fee title of real property (including the acquisition of development rights or remainder interest).

Protection

Is defined as the act or process of applying measures designed to affect the physical condition of a property by defending or guarding it from deterioration, loss or attack, or to cover or shield the property from danger or injury. In the case of buildings and structures, such treatment is generally of a temporary nature and anticipates future historic preservation treatment; in the case of archeological sites, the protective measure may be temporary or permanent.

Stabilization

Is defined as the act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.

Preservation

Is defined as the act or process of applying measures to sustain the existing form, integrity, and material of a building or structure, and the existing form and vegetative cover of a site. It may include initial stabilization work, where necessary, as well as ongoing maintenance of the historic building materials.

Rehabilitation

Is defined as the act or process of returning a property to a state of utility through repair or alteration which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historical, architectural, and cultural values.

Restoration

Is defined as the act or process of accurately recovering the form and details of a property and its setting as it appeared at a particular period of time by means of the removal of later work or by the replacement of missing earlier work.

Reconstruction

Is defined as the act or process of reproducing by new construction the exact form and detail of a vanished building, structure, or object, or a part thereof, as it appeared at a specific period of time.

General Standards

The following general standards apply to all treatments undertaken on historic properties listed in the National Register:

1. Every reasonable effort shall be made to provide a compatible use for a property that requires minimal alteration of the building, structure, or site and its environment, or to use a property for its originally intended purpose.
2. The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.
3. All buildings, structures, and sites shall be recognized as products of their own time. Alterations which have no historical basis and which seek to create an earlier appearance shall be discouraged.
4. Changes, which may have taken place in the course of time, are evidence of the history and development of a building, structure, or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.
5. Distinctive stylistic features or examples of skilled craftsmanship, which characterize a building, structure, or site, shall be treated with sensitivity.
6. Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historical, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structures.
7. The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken.
8. Every reasonable effort shall be made to protect and preserve archeological resources affected by, or adjacent to, any acquisition, protection, stabilization, preservation, rehabilitation, restoration, or reconstruction project.

Specific Standards

The following specific standards for each treatment are used in conjunction with the eight standards defined above and, in each case, begin with #9. For example, in evaluating acquisition projects, include the eight general standards plus the four specific standards listed under Standards for Acquisition.

Standards for Acquisition

9. Careful consideration shall be given to the type and extent of property rights which are required to assure the preservation of the historic resource. The preservation objectives shall determine the exact property rights to be acquired.
10. Properties shall be acquired in fee simple when absolute ownership is required to insure their preservation.
11. The purchase of less-than-fee-simple interests, such as open or facade easements, shall be undertaken when a limited interest achieves the preservation objective.
12. Every reasonable effort shall be made to acquire sufficient property with the historic resource to protect its historical, archeological, architectural, or cultural significance.

Standards for Protection

9. Before applying protective measures, which are generally of a temporary nature and imply future historic preservation work, an analysis of the actual or anticipated threats to the property shall be made.
10. Protection shall safeguard the physical condition or environment of a property or archeological site from further deterioration or damage caused by weather or other natural, animal, or human intrusions.
11. If any historic material or architectural features are removed, they shall be properly recorded, and, if possible, stored for future study or reuse.

Standards for Stabilization

9. Stabilization shall reestablish the structural stability of a property through the reinforcement of loadbearing members or by arresting material deterioration leading to structural failure. Stabilization shall also reestablish weather resistant conditions for a property.
10. Stabilization shall be accomplished in such a manner that it detracts as little as possible from the property's appearance. When reinforcement is required to reestablish structural stability, such work shall be concealed wherever possible so as not to intrude upon or detract from the aesthetic and historical quality of the property, except where concealment would result in the alteration or destruction of historically significant material or spaces.

Standards for Preservation

9. Preservation shall maintain the existing form, integrity, and materials of a building, structure, or site. Substantial reconstruction or restoration of lost features generally are not included in a preservation undertaking.
10. Preservation shall include techniques of arresting or retarding the deterioration of a property through a program of ongoing maintenance.

Standards for Rehabilitation

9. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historic, architectural, or cultural material and such design is compatible with the size, scale, color, material, and character of the property, neighborhood, or environment.
10. Wherever possible, new additions or alterations to structures shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

Standards for Restoration

9. Every reasonable effort shall be made to use a property for its originally intended purpose or to provide a compatible use that will require minimum alteration to the property and its environment.
10. Reinforcement required for structural stability or the installation of protective or code required mechanical systems shall be concealed whenever possible so as not to intrude or detract from the property's aesthetic and historical qualities, except where concealment would result in the alteration or destruction of historically significant materials or spaces.
11. When archeological resources must be disturbed by restoration work, recovery of archeological material shall be undertaken in conformance with current professional practices.

Standards for Reconstruction

9. Reconstruction of a part or all of a property shall be undertaken only when such work is essential to reproduce a significant missing feature in a historic district or scene, and when a contemporary design solution is not acceptable.
10. Reconstruction of all or a part of a historic property shall be appropriate when the reconstruction is essential for understanding and interpreting the value of a historic district, or when no other building, structure, object, or landscape feature with the same associative value has survived and sufficient historical documentation exists to insure an accurate reproduction of the original.
11. The reproduction of missing elements accomplished with new materials shall duplicate the composition, design, color, texture, and other visual qualities of the missing element. Reconstruction of missing architectural features shall be based upon accurate duplication of original features, substantiated by historical, physical, or pictorial evidence rather than upon conjectural designs or the availability of different architectural features from other buildings.
12. Reconstruction of a building or structure on an original site shall be preceded by a thorough archeological investigation to locate and identify all subsurface features and artifacts.
13. Reconstruction shall include measures to preserve any remaining original fabric, including foundations, subsurface, and ancillary elements. The reconstruction of missing elements and features shall be done in such a manner that the essential form and integrity of the original surviving features are unimpaired.

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